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IS 5144 (1980): Metal Forearm Crutches (Canadian Pattern)
[MHD 10: Medical Laboratory Instruments]

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AMENDMENT NO. 1 DECEMBER 1983

TO

IS : 5144-1980 SPECIFICATION FOR METAL FOREARM CRUTCHES (CANADIAN PATTERN)

(First Revision)

Alterations

(*Page* 1, *clause* **2.1**, *lines* 2 *and* 3) — Substitute ' IS : 2039-1981 Specification for steel tubes for bicycle and allied purposes (*first revision*) ' *for* ' IS : 2039-1964 Specification for steel tubes for bicycle and allied purposes. '

(*Page* 1, *clause* **3.2**) — Substitute the following for the existing clause:

' **3.2** The outside diameter and thickness of the tube for both sizes shall be as given below:

	Outside Dia mm	*Thickness* mm
Steel tube:		
a) for outer tube	19·05	0·91
b) for inner tube	17·07	0·91
Aluminium tube:		
a) for outer tube	25·00	1·25
b) for inner tube	22·00	1·60 '

(CPDC 20)

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UDC 615·477 26

IS : 5144 - 1980

Indian Standard

SPECIFICATION FOR METAL FOREARM CRUTCHES (CANADIAN PATTERN)

(First Revision)

1. Scope — Covers the requirements of adjustable metal forearm crutches (Canadian pattern).

2. Material

2.1 The body, adjustable leg, arm piece and sleeve for hand piece shall be made of steel tubes conforming to ERW or CEW quality grade CI of IS : 2039-1964 ' Specification for steel tubes for bicycle and allied purposes ' or from aluminium alloy tubes conforming to grade 24345 W of IS : 738-1977 ' Specification for wrought aluminium and aluminium alloys, drawn tube (for general engineering purposes) '.

2.2 The arm cuff shall be of either mild steel or stainless steel sheet.

2.3 Spring arrangement for adjusting the forearm length and height of the crutch shall be of spring steel wire conforming to Grade 2 or 3 of IS : 4454 (Part I)-1975 ' Specification for steel wires for cold formed springs: Part I Patented and cold-drawn steel wires — unalloyed (*first revision*) ' or from spring steel strip conforming to Grade 2 or 3 of IS : 2507-1975 ' Specification for cold rolled steel strip for springs (*first revision*) '.

2.4 The hand piece casting and arm cuff joint may be cast from aluminium alloy.

3. Shape and Dimensions

3.1 The general shape and dimensions of the crutches shall be as given in Fig. 1.

3.2 The steel tube outside diameter and thickness shall be 17·07 mm and 0·91 mm nominal for size 1 and 19·05 mm and 1·22 mm nominal for size 2. The aluminium tube outside diameter and thickness shall be 22·0 mm and 1·6 mm nominal for size 1 and 25·0 mm and 1·25 mm nominal for size 2.

4. Workmanship and Finish

4.1 The steel or aluminium tubes shall be free from any cracks or other defects. They shall be smoothly finished and brightly polished. The arrangement for adjusting the height and the forearm length of the adjustable crutch shall be either as shown in Fig. 1 or any other arrangement which shall permit the adjustments to be carried out without undue exertion. The body of the crutch shall be bent from one single length of tube The hand piece shall be fitted separately as shown in Fig. 1 and welding of hand piece to tube outer may be permitted if it satisfies requirements at **5**. All sharp edges shall be rounded. All pins and rivets shall be finished flush and smooth. The rubber tip end of the leg shall be suitably closed to prevent the tube from cutting through the tip. The arm cuff, if manufactured from mild steel, may be covered with good quality perspiration resistant and non-irritating lining leather or with polyurethene foam firmly glued and wrapped with vinyl coated fabric. The stainless steel cuff shall be wrapped with foam plastics glued firmly to the cuff with a suitable adhesive. If wooden hand piece is not provided over the sleeve, the sleeve shall be covered with suitable plastics. The steel tube may either be painted with air-drying or stoving enamel or plated chromium over nickel in accordance with grade 2 of IS : 1068-1968 ' Specification for electroplated coatings of nickel and chromium on iron and steel '. If painted, the surface shall be given phosphate treatment and suitable primer applied. The paint shall adhere firmly and shall not chip or flake.

Artificial Limbs Sectional Committee, CPL

5. Strength Test — The crutch shall be held with the axis vertical and the leg fully extended. A load of 70 kgf shall be suspended from the middle of hand piece for a period of one minute. The hand piece and the crutch shall not get bent or damaged.

6. Marking — Each crutch shall be marked with the manufacturer's name, initials or recognized trade-mark and the size.

6.1 *ISI Certification Marking* — Details available with the Indian Standards Institution.

7. Packing — The crutches shall be packed in the manner as agreed to between the purchaser and the supplier.

Adopted 28 August 1980	© January 1981, ISI	

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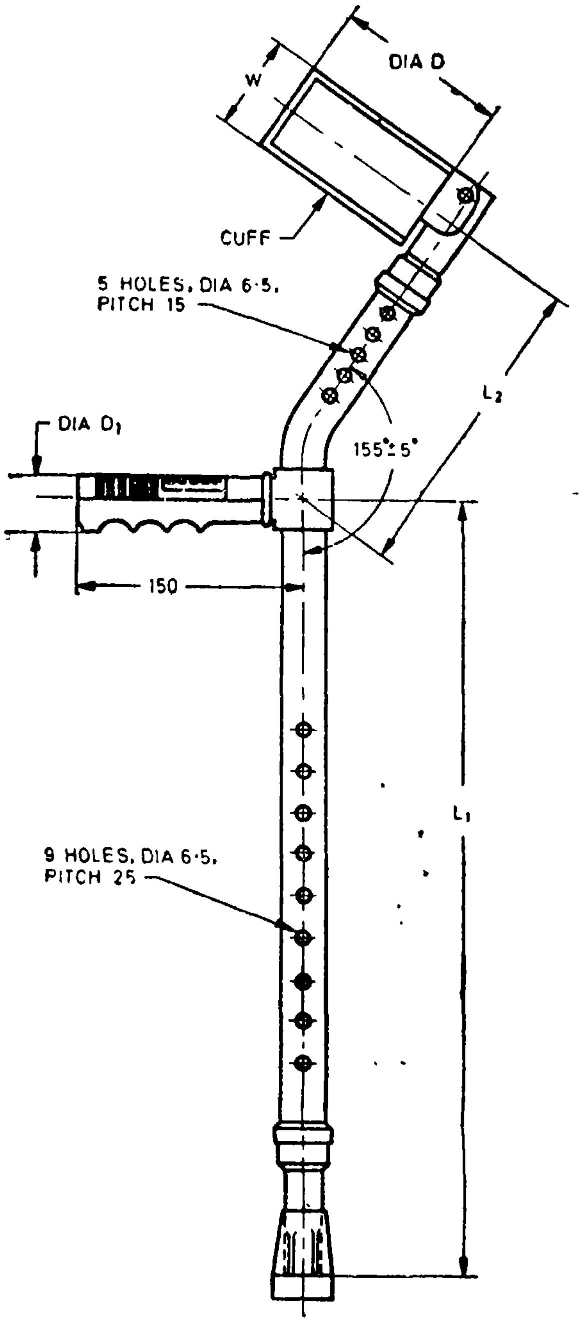

Size	$L_1 \pm 10$		$L_2 \pm 5$		W	Dia D (Metal Cuff Excluding Padding)	Dia D_1 Nom
	Max	*Min*	*Max*	*Min*			
1	660	460	185	140	45	80	25
2	860	660	260	200	55	100	30

All dimensions in millimetres.

FIG. 1 METAL FOREARM CRUTCH (CANADIAN PATTERN)

EXPLANATORY NOTE

Assistance has been derived from PN-58/Z-78114 ' Sprzet Szpitalny Szczudlo Metalowe (Hospital furniture and equipment: Metal crutches)' issued by the Polski Komitet Normalizacyjny. This revision incorporates various changes in materials, dimensions, construction, etc, as per the experience gained by the industry.

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AMENDMENT NO. 2 MAY 1993
TO
IS 5144 : 1980 SPECIFICATION FOR METAL FOREARM CRUTCHES (CANADIAN PATTERN)

(First Revision)

(*Page* 1, *clause* 2.2) — Substitute the following for the existing clause:

'2.2 The arm cuff shall be made of mild steel, stainless steel, ABS or polypropylene moulding.'

(*Page* 2, *Fig*. 1, *informal table*) — Substitute the following for the existing table:

'Size	$L_1 \pm 10$		$L_1 \pm 5$		$W \pm 5$	Dia $D \pm 5$ (Metal Cuff *Excluding* Padding)	Dia $D_1 \pm 5$ *Nom*
	Max	*Min*	*Max*	*Min*			
1	660	460	205	160	45	80	25
2	860	660	260	200	55	100	30'

(MHD 10)

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